cussions there appeared a feature which struck me as of the greatest value. With us the discussion is rarely, if ever, reported, but at Berlin as soon as a speaker had finished his discussion, a page handed him a folio of cardboard with pencil, paper and blotting paper (there are fountain pens in Germany), and the substance of his remarks was at once jotted down and handed to the secretary. For any society which wishes to publish a full account of its proceedings some such method would be of great importance, while any one who has ever acted as secretary and has later tried to get together abstracts of the discussion will at once recognize its value.

J. S. KINGSLEY

PARIS,
April 28, 1908

DATES OF EARLY SANTORIN AND ISCHIAN ERUPTIONS

OWING to conflicting literary sources and the difficulty of reconciling them, the chronology of early volcanic eruptions in islands of the Mediterranean, especially those of the ancient Thera and Pithecusæ, is involved in much uncertainty. The dates assigned to the first two or three eruptions of Thera have been the subject of much discussion, as it is a matter of some historical importance that they should be determined with as much precision as possible, in order thereby to fix divers contemporary events.

A welcome contribution to the literature of this subject is to be found in a recent number of *Hermes* (43, p. 314), in an article by Professor A. Klotz, of Strassburg, entitled "Die Insel Thia." Reasons are given by him for regarding the following as authentic dates of the first three outbreaks of the Santorin group known to have taken place during continuous history: B.C. 196 and 66; A.D. 46. Through a misunderstanding of Pliny's text the last of these is commonly referred to the year 19 A.D., and the intermediate one is seldom mentioned in geological treatises. For a list of eruptions occurring during our present era one may consult the writings of Fouqué and Alfred Philippson, the latter in volume 1 of "Thera" (1899). These two geologists, and also H. S. Washington,[1] have discussed the physical evidence for estimating the time-interval since the earliest eruption of all which can be associated with a period of human culture, and find reason for assigning it to the proto-Mycenæan, or roughly speaking, 2000 B.C.

Early Ischian eruptions have likewise afforded material for debate. A list of all known disturbances is given by Fuchs in his elaborate monograph, "L'Isola d'Ischia," and a slightly different chronology is proposed by Ettore Pais in his recent volume on "Ancient Italy" (1908). According to this author, we have authentic accounts of four eruptions of Epomeus during classical antiquity, as follows: (1) a very early one which drove out the Eretrians and Chalcidians; (2) that which occurred shortly after 474 B.C., and caused the Syracusans to leave the island; (3) that which took place shortly before the birth of Timæus (*ante* 352 B.C.); and (4) one in 91 B.C., which is mentioned by Julius Obsequens. The same author also undertakes to identify the circular lake described by Pliny as having been formed by an earthquake, with the modern Porto d'Ischia.

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SPECIAL ARTICLES

A NOTE ON THE PROPORTION OF INJURED INDIVIDUALS IN A NATURAL GROUP OF BUFO

IN "Darwinism To-Day" (p. 84) Kellogg draws attention to Conn's reference to a maimed frog which was able, in its natural environment, to survive so serious a loss as the whole of both feet, as illustrating the idea that "selection is not so rigid as to eliminate *all* unfit individuals." Probably every naturalist could cite from his own experience many analogous instances of survival after more or less severe injury. Little is known, however, regarding the actual proportion of maimed individuals in a given group.

In making a study of correlation[2] in the common toad (*Bufo lentiginosus americanus*, LeC.) I had the rather unusual opportunity

[1] *Amer. Journ. Arch.*, 9, p. 504.

[2] *Jour. Exp. Zool.*, IV., 4, 1907.